

REMARKS

Claims 1, 12, 17-26 and 28-54 are pending herein.

By this Amendment, claims 18, 22-24, 47 and 49 are amended to more fully distinguish the invention of the claims over the teachings of the prior art references cited against these claims. Claim 45 is amended to conform with claim 43, from which it depends. Claims 51-54 have been added.

No new matter is added by this Amendment. Support for the amendments to claims 18, 22-24, 47 and 49 is found in the original specification and claims. In particular, support for the language added to claims 18, 23 and 24 is found at, for example, pages 26-27 of the original specification.

I. Allowable Subject Matter

Applicants note with appreciation that claims 1, 12, 17, 25, 26, 28-46 and 50 are indicated as being allowed.

II. Claim Rejections Under 35 U.S.C. § 103(a)

Claims 18-24 and 47-49 were under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 6,142,641 (hereinafter "Cohen"). This rejection is respectfully traversed.

Claims 18, 23 and 24 each recite exposure of an object by exposure light by generating a second wavelength light from the x-ray source which generates x-rays as the exposure light. Claim 18 further recites a light source observation system that forms an image of the x-ray source with the second wavelength light to obtain positional information of an x-ray source.

The Patent Office acknowledges that Cohen does not disclose that a single light source is used to generate the exposure and non-exposure light. However, the Patent Office alleges that it would have been obvious to a person of ordinary skill in the art at the time the

invention was made to combine the two light sources (8 and 31) of Cohen into a single light source because it allegedly would improve efficiency in an x-ray source (8) and observation system.

Cohen merely discloses an invention which carries out optical adjustment using a non-exposure light generated by a light source, which is different from the light source which generates the exposure light which exposes an object, to carry out optical adjustments.

Nowhere does Cohen disclose generating a second wavelength light from the x-ray source which generates x-rays as the exposure light which exposes the subject as required by claims 18, 23 and 24. Further, nowhere does Cohen disclose a second wavelength light from the x-ray source which generates x-rays as the exposure light which exposes the subject, by observing an image of the x-ray source formed by the second wavelength light and obtaining positional information of an x-ray source, as required in claim 18.

More specifically, each of claims 18, 23 and 24 recite that the second wavelength light is generated by the same light source that generates the x-rays used as exposure light to expose the object.

However, in Cohen, for example, in the case of carrying out optical adjustment using a non-exposure light generated by a light source which differs from the light source which generates the exposure light, after carrying out the optical adjustment using the non-exposure light, it is necessary to re-load and exchange the light source of the non-exposure light with the light source of the exposure light. This required step in the operation disclosed by Cohen is unnecessary in the present invention.

For the foregoing reasons, Applicants respectfully submit that Cohen fails to teach or suggest the subject matter of claims 18, 23 and 24 and any of depending claims 19-22 and 47-49. Reconsideration and withdrawal of this rejection are thus respectfully requested.

III. JP 57-085019 Cited in Information Disclosure Statement

Japanese Patent Application No. Sho 57-085019 (JP '019) is cited in the Information Disclosure Statement filed October 8, 2003. Applicants submit that the subject matter of the claims of the present invention are patentable in view of JP '019.

JP '019 discloses a technology of carrying out positional adjustment of a light source using a separate wavelength. However, the light path through which the exposure wavelength light passes differs from the light path through which the separate wavelength light for the adjustment passes.

In Figure 2 of JP 57-085019, the light beam emitted from a light source 11 is reflected by a dichroic mirror 17 after being reflected by an elliptical reflecting mirror 12, and is irradiated on a mask 21 via an optical member 18, reflecting mirror 19 and condenser lens 20. However, in Figure 2 of JP 57-085019 the light beam for light source positional detection is emitted from the light source 11, passing through the dichroic mirror after being reflected by the elliptical reflecting mirror 19, and is incident on a target 15 via a positive lens 13 and a reflecting mirror 14. In other words, after the dichroic mirror 17, the light path through which the exposure wavelength light passes and the light path of a separate wavelength light for light source positional adjustment are different. Therefore, for example, it is not possible to carry out positional adjustment of the optical member 18 or reflecting mirror 19 using the separate wavelength light emitted from the light source 11.

Whereas in the present invention, the separate wavelength light for adjustment and the exposure wavelength light pass through the same light path, and it is possible to adjust not only the position of the light source, but also the position of the optical system which constitutes the light path.

IV. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1, 12, 17-26 and 28-54 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



Mario A. Costantino
Registration No. 33,565

Linda M. Saltiel
Registration No. 51,122

MAC:LMS/rav

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OLIFF & BERRIDGE, PLC
P.O. Box 19928
Alexandria, Virginia 22320
Telephone: (703) 836-6400

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